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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,696	11/08/2001	Jay B. Reimer	TI-30105	7469

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EXAMINER	
DANG, KHANH NMN	

ART UNIT	PAPER NUMBER
2111	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/008,696	REIMER ET AL.
	Examiner	Art Unit
	Khanh Dang	2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17-19* is/are allowed.

6)☒ Claim(s) *1-4 and 9-15* is/are rejected.

7)☒ Claim(s) *5-8 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawai et al. (Kawai).

At the outset, it is noted that similar claims will be grouped together to avoid repetition.

As broadly drafted, these claims do not define any structure that differs from Kawai.

With regard to claim 1, Kawai discloses a digital signal processing system, comprising: a plurality of processor subsystems (200) that each include: at least one memory device (100); and a memory bus multiplexer (in 108/400) coupled to each of said at least one memory device by a subsystem memory bus (152); and a direct memory access (DMA) controller (103), wherein each of the DMA controllers is coupled to each of said memory bus multiplexers and is configured to access each of said memory devices via the corresponding subsystem memory bus.

With regard to claim 3, each of the plurality of processor subsystems (200) further includes: a host port interface (HPI) unit (including 401 and 402) coupled to the memory bus multiplexer (152) and configured to access the memory device via the subsystem memory bus.

With regard to claim 4, each of the HPI units (including 401 and 402) is coupled to each of the memory bus multiplexers (152) and is configured to access each of the memory devices via the corresponding subsystem memory bus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai.

Kawai discloses the claimed invention (see above). Kawai does not disclose that a plurality of DSPs (200) can be fabricated on a single chip. However, placing a plurality of DSPs on a single chip or IC is old and well-known in the art of IC fabrication. It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the DSPs of Kawai on a single chip for cost saving and also, improving bus latency, since the Examiner takes Official Notice that placing a plurality of DSPs on a single chip is old and well-known, and placing the plurality of Kawai's DSPs on a single

chip only involves ordinary skill in the art. If the Applicants choose to properly challenge the Official Notice, supportive document(s) will be provided upon request.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai.

Kawai discloses the claimed invention (see above). Kawai does not disclose the use of a one way FIFO buffer. However, a one way FIFO buffer is old and well-known in the art, as evidenced by Dunton (cited below, under relevant art), for improving efficiency in data transfer and in some instances, compensating the difference in transfer speed between buses or devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the memory buses of Kawai with one way FIFO buffer, since the Examiner takes Official Notice that one way FIFO buffer is old and well-known in the art, and provide the memory buses of Kawai with one way FIFO buffers only involves ordinary skill in the art.

Claims 10-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai.

Kawai discloses the claimed invention (see above rejection of claims 1, 3, and 4). Wit regard to claim 13, not the BUSARB/210/310 or "bus arbiter." Kawai does not disclose that a plurality of DSPs (200) can be fabricated on a chip. However, placing a plurality of DSPs on a chip or IC is old and well-known in the art of IC fabrication. It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the DSPs of Kawai on a chip for cost saving and also, improving bus

latency, since the Examiner takes Official Notice that placing a plurality of DSPs on a chip is old and well-known, and placing the plurality of Kawai's DSPs on a chip only involves ordinary skill in the art. If the Applicants choose to properly challenge the Official Notice, supportive document(s) will be provided upon request.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai, as applied to claims 10-13 above, and further in view of the following.

The further difference between the claimed subject matter and that of Kawai is the use of round robin scheme or logic for the arbiter to determine which request among a plurality of requests should be honored. However, round robin scheme is old and well among a plurality of known priority scheme in the art for providing a fair access. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ round robin logic for the arbiter of Kawai, since the Examiner takes Official Notice that round robin scheme is old and well-known, and employing round robin logic for the arbiter of Kawai for providing fair access only involves ordinary skill in the art. If the Applicants choose to properly challenge the Official Notice, supportive document(s) will be provided upon request.

Allowable Subject Matter

Claims 17-19 are allowed.

Claims 5-8, 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

U.S. Patent Nos. 6,609,188 to Dunton, 5,838,934 to Boutaud et al., 5,581,734 to DiBrino et al., and 8,058, 458 to Lee are cited as relevant art.

Any inquiry concerning this communication should be directed to Khanh Dang at telephone number 703-308-0211.

Khanh Dang
Primary Examiner